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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,392

05/11/2007

Tetsuo Yoshida

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01/07/2011

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EXAMINER

CHEN, VIVIAN

ART UNIT

PAPER NUMBER

1787

NOTIFICATION DATE

DELIVERY MODE

01/07/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

Office Action Summary	Application No.	Applicant(s)	
	10/587,392	YOSHIDA ET AL.	
	Examiner	Art Unit	
	Vivian Chen	1787	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 2-4,9-13,22-24,34-39 and 43-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-8,14-21,25-33,40-42 and 48-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :
2/15/2007; 7-27/2006, 9/10/2008; 11/12/2009; 1/29/2010; 7/12/2010; 11/24/2010.

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DETAILED ACTION

Response to Election

1. Applicant's election of Species a(ii) and b(i) in the reply filed on 10/28/2010 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

2. Claims 2-4, 9-13, 22-24, 34-39, 43-47 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 10/28/2010.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 15, 48-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15, 49 are vague and indefinite because the phrase "at least by four layers as the total number of layers" does not clearly describe the arrangement and/or structure of the claimed film. It is unclear whether the "laminated at least four layers" means that the total number of

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layers B and layers C in the film must exceed four in number, or whether the film must contain four other layers besides a layer B and a layer C.

Claims 48-49 recite the limitation "layer B" and "layer C". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 5-6, 8, 14-15, 19-20, 25, 27, 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

YAMASAKI ET AL (US 5,518,817),

in view of MUROOKA ET AL (US 6,677,031).

YAMASAKI ET AL discloses multilayer biaxially oriented films comprising at least one layer of syndiotactic polystyrene (sPS) and at least one layer of a thermoplastic resin (e.g., polyesters such as polyethylene naphthalate (PEN), etc.), wherein the films have a typical thickness of 5-500 microns, or 3-100 microns in the case of magnetic tapes, and wherein the thickness ratio of the resin layer(s) to the sPS layer(s) is typically 1 to 30. The films have a typical structure comprising resin/sPS/resin, with optionally additional thermoplastic resin layers and/or sPS layers. The films are suitable for use in electronic or electrical applications,

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capacitors, and/or magnetic tapes, wherein the magnetic tapes are formed by coating the multilayer film with a magnetic layer. (entire document, e.g., line 36, col. 4 to line 25, col. 6; line 31, col. 8 to line 27, col. 9; etc.) However, the reference does not explicitly disclose the recited melting point of the sPs resin.

MUROOKA ET AL discloses that it is well known in the art that syndiotactic polystyrene (sPS) resins suitable for use in laminate films with polyesters (e.g., polyethylene naphthalate, etc.) have a typical melting point of 220-270 deg C. (line 45, col. 4 to line 19, col. 5)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate known sPS resins with melting points compatible with PEN resins in the films of YAMASAKI ET AL in order to facilitate production of multilayer films with high heat resistance and enhanced mechanical and other physical properties.

7. Claims 16-18, 28-30, 40, 42, 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

YAMASAKI ET AL (US 5,518,817), in view of MUROOKA ET AL (US 6,677,031).

as applied to claims 1, 5 above,

and further in view of KOBAYASHI ET AL (US 6,890,471),

and further in view of FUNAKI ET AL (US 5,188,930).

KOBAYASHI ET AL discloses that it is well known in the art to form film substrates comprising PEN for magnetic recording media with Young's modulus at least 8 GPa in the machine direction and at least 6 GPa in the tranverse direction with the total of the Young moduli being 15-20 GPa, wherein the film also has a temperature expansion coefficient in the

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transverse direction of $-5 \times 10^{-6}/\text{deg C}$ to $12 \times 10^{-6}/\text{deg C}$ and a humidity expansion coefficient in the transverse direction of $5 \times 10^{-6}/\% \text{ RH}$ to $12 \times 10^{-6}/\% \text{ RH}$ in order to form recording media with excellent dimensional stability, flatness, and strength. (line 10-25, col. 8)

FUNAKI ET AL discloses that it is well known in the art that oriented sPS films are capable of having humidity expansion coefficients of $1 \times 10^{-6}/\% \text{ RH}$ or less. (line 16-18, col. 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize known sPS and polyester resins and to apply known film manufacturing and orientation methods to the laminate films of YAMASAKI to produce films with physical properties (e.g., heat and humidity expansion coefficients, Young's modulus values, etc.) comparable to those as disclosed in KOBAYASHI ET AL in order to form film substrates for magnetic recording media with enhanced dimensional stability, flatness, and recording performance.

8. Claims 7, 21, 26, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over: YAMASAKI ET AL (US 5,518,817), in view of MUROOKA ET AL (US 6,677,031); as applied to claims 1, 5 above; and further in view of JP 08-048008 (JP '008).

JP '008 discloses that it is well known in the art that it is desirable that sPS/polyester laminates have dielectric dissipation factors of 0.001 or less in order to form useful films for electrical applications. (paragraph 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the materials used in the YAMASAKI ET AL laminate films in order to

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produce films with desirable electrical properties as disclosed in JP '008 for use in known electrical products. One of ordinary skill in the art would selected the sPS and polyester resins used in the YAMASAKI ET AL films in order to obtain other electrical properties and the heat resistance properties (claims 21, 33) required for specific applications.

9. Claims 41, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over:

YAMASAKI ET AL (US 5,518,817), in view of MUROOKA ET AL (US 6,677,031), and further in view of KOBAYASHI ET AL (US 6,890,471), and further in view of FUNAKI ET AL (US 5,188,930),

as applied to claims 1, 5, 16 above;

and further in view of JP 08-048008 (JP '008).

JP '008 discloses that it is well known in the art that it is desirable that sPS/polyester laminates have dielectric dissipation factors of 0.001 or less in order to form useful films for electrical applications. (paragraph 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the materials used in the YAMASAKI ET AL laminate films in order to produce films with desirable electrical properties as disclosed in JP '008 for use in known electrical products. One of ordinary skill in the art would selected the sPS and polyester resins used in the YAMASAKI ET AL films in order to obtain other electrical properties and the heat resistance properties (claim 52) required for specific applications.

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Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vivian Chen whose telephone number is (571) 272-1506. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 6 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho, can be reached on (571) 272-1123. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

The General Information telephone number for Technology Center 1700 is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 30, 2010

/Vivian Chen/

Primary Examiner, Art Unit 1787